



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,104	01/14/2002	David J. Corisis	M4065.0317/P317-B	7226
24998	7590	10/05/2004		
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP 2101 L STREET NW WASHINGTON, DC 20037-1526			EXAMINER KEBEDE, BROOK	
			ART UNIT 2823	PAPER NUMBER

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/043,104

Applicant(s)

DAVID J. CORISIS

Examiner

Brook Kebede

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 17, 2004 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by anticipated by Yamaoka (JP/10064854).

Re claim 12, Yamaoka teaches a semiconductor package comprising: a substrate (54) having an upper surface and a lower surface, one of said upper surface and said lower surface including at least on groove capable of being broken to separate the substrate to plurality of segments (see Drawing 7).

Re claim 13, as applied in claim 12 above, Yamaoka teaches all the claimed limitations including the limitation wherein said at least on groove further comprises a sawn portion (see Drawings 1-7).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka (JP/10064854) in view of Nishino et al. (US/6,010,384).

Re claim 14, as applied in claim 12 above in Paragraph 3, Yamaoka teaches all the claimed limitations. However, Yamaoka does not specifically teach wherein said at least groove comprises a scribed portion.

Nishino et al. disclose the method of packaging of a semiconductor device having a groove portion which comprises a scribed portion (Col. 1, lines 40-44). As Nishino et al. disclose the scribe line (portion) is extended perpendicular to the substrate in order to singulate each chip without generating cut defects (see Abstract).

Both Yamaoka and Nishino et al. teachings are directed to dicing of plurality of semiconductor chips formed on a single base substrate and packaging of the chips. Therefore, the teachings of Yamaoka and Nishino et al. are analogous. It would have been within the scope of one of ordinary skill in the art to combine the teachings of Yamaoka and Nishino et al. to enable formation of the cut portion by providing scribe as taught by Nishino et al. because one of ordinary skill in the art would have been motivated to look to analogous art teaching an alternative suitable or useful method to singulate semiconductor die using scribe lines as the art recognized its suitability for intended purpose.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka (JP/10064854) in view of Yamada et al. (US/6,010,384).

Re claim 15, as applied in claim 12 above in Paragraph 3, Yamaoka teaches all the claimed limitations. However, Yamaoka does not specifically teach wherein said at least one groove portion further comprises a chemically etched portion.

Yamada et al. disclose teaching forming groove portion that etched by chemical. (See abstract).

It would have been within the scope of one of ordinary skill in the art to combine the teachings of Yamaoka and Yamada et al. to enable formation of the groove portion.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka (JP/10064854) in view of Wakashima et al. (US/6,010,384).

Re claim 16, as applied in claim 12 above in Paragraph 3, Yamaoka teaches all the claimed limitations. However, Yamaoka does not specifically teach wherein said at least one groove portion further comprises a milled portion.

Wakashima et al. disclose providing a cut portion by milling the substrate to create a mill portion (see Col. 32, lines 18-20).

It would have been within the scope of one of ordinary skill in the art to combine the teachings of Yamaoka and Wakashima et al. to enable formation of the groove portion by milling the substrate.

Response to Arguments

8. Applicant's arguments filed on August 17, 2004 have been fully considered but they are not persuasive.

Applicant argued that Yamaoka does not teach the claimed limitation as recited in claim 12.

In response to applicant's argument, the examiner respectfully submits that Yamaoka teaches all the claimed limitations of claim 12 as set forth in Paragraph 3 above. Furthermore the groove (63a) as depicted in Drawing 7 is capable of being broken to separate the substrate to plurality of segments.

Therefore, the rejection under 35 U.S.C. 102 is deemed proper.

In addition, the *prima facie* case of obviousness has been met and the rejection under 35 U.S.C. § 103 is deemed proper.

Conclusion

9. **THIS ACTION IS MADE NON-FINAL.**

Correspondence

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2823

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brook Kebede
Examiner
Art Unit 2823



BK
September 30, 2004